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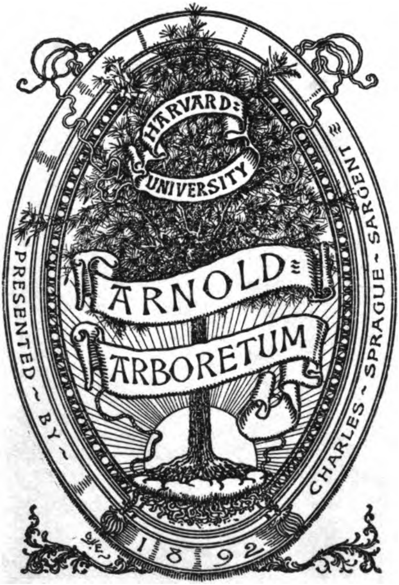

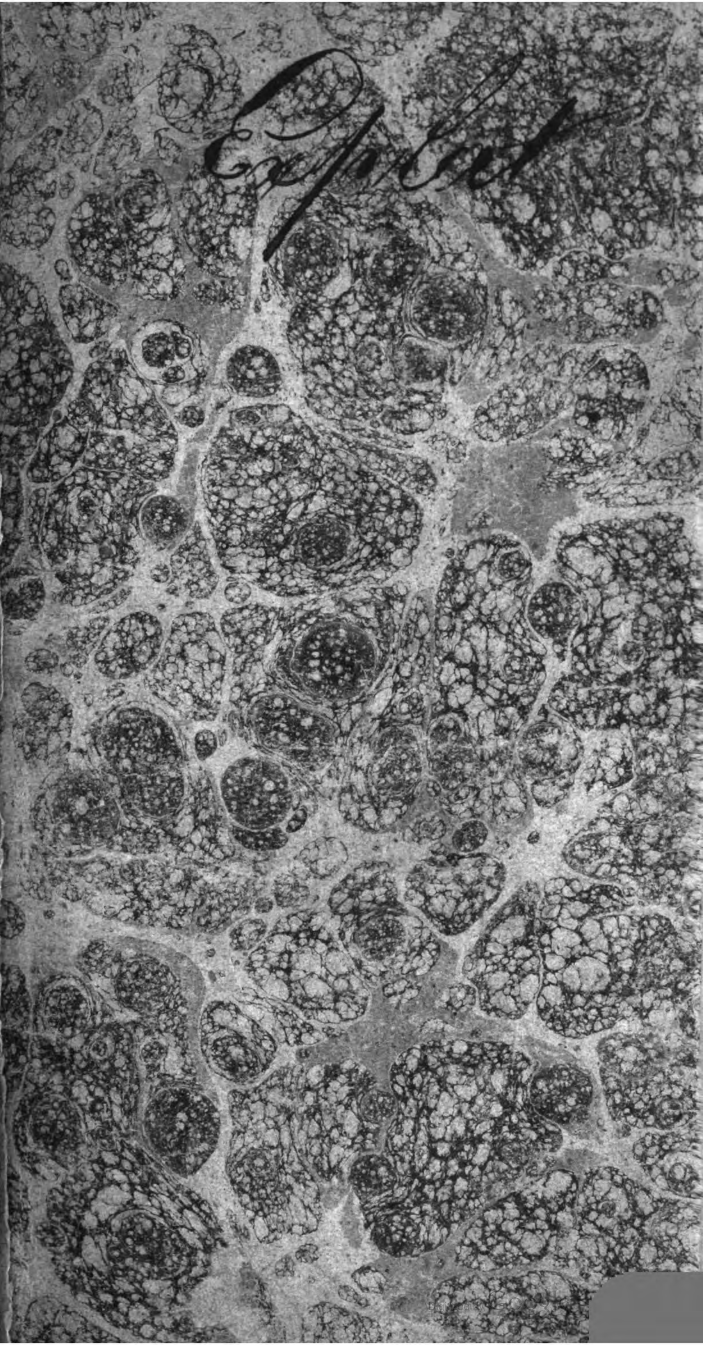

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A
COMPANION
TO
DR. THORNTON'S
LECTURES
ON
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FIRST LECTURE.

On the Composition of a Flower.

FLOWERS, although apparently so diversified, consist but of *eight* parts.

I. The Pistil (Pistillum) in the centre of the flower.

II. The Stamen (Stamen) exterior to this.

Both these are projecting bodies, being extensions (according to Linnæus) the first, of the pith; and the second, of the wood.

The Pistil is discriminated by a swollen base. which is the seed vessel, or Germen, which being opened discloses the seeds.

The Stamen is discriminated by having a part which forms and contains coloured Farina, or Pollen, hence called an Anther by Botanists.

A perfect or complete Pistil is composed of three Parts:—

1. The Stigma (Stigma) at top, never absent, though sometimes obscure.
2. The Style (Stylus) elevates the Stigma, not absolutely essential.
3. The Germen (Germen) or seed-vessel, always present.

An imperfect Pistle has no Style.

A perfect or complete Stamen is composed of two Parts:—

1. The Anther (Anthera) at top, containing the fertilizing pollen, always present.
2. The Filament (Filamentum) elevating the Anther, not so essential, being absent in some flowers.

An imperfect Stamen has no filament.

When the Stamens and Pistils are found together, the flower is then called Bisexual

When these are seperate, being placed in different flowers, the flower is then called Unisexual.

For the protection and nourishment of the Central Organs of vegetables (viz. the Pistilla and Stamina) nature has usually furnished two other Parts.

III. The Corolla (Corolla) interior.

IV. The Calyx (Calyx) exterior to this part.

Both expanded bodies, being expansions, the one of the bark, and the other of the rind.

These are discriminated not only by their respective situations, but by the greater dilicacy of the Corolla compared with the Calyx, the former having usually coloured Petals, the latter green Leaves.

These parts are not absolutely essential, some flowers being destitute of one, or both of them.

V. The Nectary (Nectarium) usually for the secreting and containing of honey.

VI. The Pericarp (Pericarpium) which is only the germen enlarged, filled with mature seeds.

VII. The Seeds (Semina) the rudiments of the new plants, and lastly,

VIII. The Receptacle (Receptaculum) the basis upon which all the other parts rest.

SECOND LECTURE.

On the Calyx.

HAVING formed a general idea of a Flower, viz. I. Calyx, II. Corolla, III. Nectary, IV. Stamina, V. Pistilla, VI. Pericarp, and VII. Seeds, and VIII. Receptacle, we will now consider each of these parts, in a more particular manner, for

The term Calyx, like our words, horse, bird, dog, habitation, is a generic word, including several distinct species, thus :

I. Perianth (Perianthium) is the outer expaned covering of a flower,—the most common kind of Calyx,[*]—usually green,—sometimes coloured;[†] contiguous to the corolla,—protecting the organs for reproduction in their infant state, sometimes caducous,[‡]—often abiding with the fruit,[§]—and sometimes even serving the office of pericarp,[||]—usually single,—occasionally double,[¶]—not unfrequently very obscure,[**]—or wholly deficient.[††]

II. Involucre (Involucrum) is a calyx remote from the flower,—most commonly stationed[‡‡] at the foot of a general, or partial umbel.[§§]

III. Spathe (Spatha) a species of calyx, which first involves the infant flowers like a sheath, and then opens longitudinally.

IV. Glume (Gluma) the outer valves, or husks of corn, or grass, enclosing one, or more, florets.

V. Ament (Amentum) small chaffy scales, protecting the florets placed on a thread-like common receptacle.

VI. Calyptra (Calyptra) the covering of a moss, placed over it, like a cap or bonnet.

VII. Volve (Volva) a membrane, which involves the fungus in its infant state, and which afterwards appears in a lacerated form on the foot stalk.

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[*] Of the 1021 genera of plants, known in the time of Dr. Alston, Professor of Botany at Edenburgh, he observes, 673 had a Perianth; 75, an Involucré; 72, a Spatha; 29, a Glume; 18, an Ament; 3, a Calyptra; 2, a Volva; and 110, no Calyx of any kind.

[†] Coloured, as in the Passion Flower, Indian Reed, &c.

[‡] Caducous, falling off, as in the Poppy, which very quickly loses its two Calyx leaves.

[§] Abiding, as in the Egg Plant, where it increases to a large size.

[||] Serving the Office of Pericarp, the office of seed-vessel, as in the Nettle.

[¶] Double, as in the Mallow.

[**] Obscure, as in the Rose-bay, Rhododendron.

[††] Deficient. absent, as in the Lilies.

[‡‡] Most commonly stationed, not always, as in Anemony and Passion-Flower, a somewhat rare occurrence.

[§§] A general and partial Umbel, Umbelliferious, or Umbel-bearing plants, are of two kinds; from a common centre precede the peduncles, or flower stalks, like the sticks of an umbrella, and when each peduncle terminates with a flower, as the Geranium, Cowslip, Meadia, the Umbel is then called general; but if these peduncles, instead of terminating in a flower, end in a fulcrum, or point, whence other pe-

THIRD LECTURE.

On the Corolla.

BESIDES the guardianship of a Calyx, many flowers have also their Corolla, which has a similar office, and it is not improbable that these expansions have likewise a reference to the solar ray, which these parts either increase by a reflective power, or ward off from the central organs; hence the advantages of the variety in their shapes and colours.

However apparently varied, the forms of this part of the flower are circumscribed. Thus—

The term Corolla is a compound idea, made up of the following distinct notions, as—

I. Bell-shaped (Campanulata), hollowed internally like a bell, often swollen at the sides, and without a tube.
II. Wheel-shaped (Rotata), slightly hollow, or the border flat, and with so little a tube as to resemble a wheel on the ground.
III. Funnel-shaped (Infundibuliformis) having the border of the Corolla like a cone, and placed upon a tube, so as to resemble a funnel.
IV. Salver-shaped (Hypocrateriformis) having the border of the Corolla flat, and placed upon a tube resembling a salver.
V. Rengent (Ringens) having the border of the Corolla like two open lips, placed upon a tube, resembling a person gaping.
VI. Personate (Parsonata) having the border of the Corolla like the lips, the mouth closed, greatly resembling the snout of an animal, also placed upon a tube.
VII. Tubular (Tubularis) when the floret of a compound flower ends in a tube, the border being five-cleft.
VIII. Ligulate (Ligulata) when the Corolla of the floret is linear, i. e. resembles the strap of a shoe.
IX. Compound Radiate or Rayed. (Radiata) having the two sorts of flowers, Tubular and Ligulate; Tubular in the Disk or centre, and Ligulate in the Ray or circumference.
X. Cruciform (Cruciata) having four petals, placed like a St. Andrew's Cross.
XI. Rosaceous (Rosacea) having five or more petals, not fleshy, orbicularly placed.
XII. Liliaceous, (Liliacea) having six or more petals, fleshy, placed also in a circle.
XIII. Papilionaceous (Papilionacea) having four petals,* of different shapes and sizes, placed so as to resemble a butterfly on the wing.

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duncles proceed, and these terminate each in a flower, the Umbel is then called *partial;* and hence the involucre itself is called a *genera*, or *partial* involucre. *Fool's Parsley* is an example of this last kind.

* *Four petals,* For the names which these have received, *vide* Explanation of the Botanical Terms applied to the Corolla.

FOURTH LECTURE.

On the Nectary.

THE term Nectary, like the Corolla, is also a complex idea, like our words pigeon, dog, made up of many different individuals, indeed too numerous and diversified, to be distributed under heads, for every singular appearance in different parts of the flower, even unconnected with the corolla, for whatever is not calyx, or stamen, or pistillum, or corolla, whether it secretes honey, or not, is called by botanists, the Nectary.

The following are amongst the most prominent examples:—

1. A Spur, or horn (Nect. corniculatum).
2. A small open cup (Cyathus apertus), small hollow cups, circularly ranged in the interior of the flower.
3. A cup closed by a lid (Cyathus clausus) a similar arrangement of nectaries, as in the preceding, but closed with a lid.
4. Like the cut finger of a glove (Nect. companulatum) hollowed like the finger of a glove cut off, but depending.
5. Like a funnel upright (Nect. Infundibuliforme).
6. Like a slipper (Nect. calceiforme).
7. A simple cavity (Fovea excavata), an excavation at the base of each petal.
8. A naked channel (Linea Longitudinalis excavata) an hollow longitudinal groove, in a petal.
9. Villous projections (Nect. barbatum) numerous villi placed upon the petal.
10. Filaments without anthers, imitating stamina (Filamenta sine antheris, veluti stamina). filliform projections like stamina, each terminated with a clasper.
11. Petal-like (Nec. Petulam mentiens).
12. Resembling a nest of doves (Columbulos referens) five cornuted nectaries, the whole resembling much a nest of doves.
13. Resembling Dolphins (Figuram Delphini repræsentans) like a dolphin elevated on a pillar or filament.
14. Like a tongue (Veluti lingua).
15. Resembling rays of glory (Filamenta versicolarate in orbem posita), projections in the form of rays of glory.
16. Giving the appearance of various animals (Nect. formam animalium mentiens).
17. A naked scale (Squama nuda).
18. A fringed scale (Squama fimbriata).
19. Glands upon the Stamens (Glandulæ filamentis adspersæ).
20. Glands at the insertion of stamens (Glandulæ filamentis positæ).

FIFTH LECTURE.

On the Pericarps and Seeds.

AFTER the sight and smell have been regaled by flowers. Nature then seems only intent upon the continuation and increase of the species. The Calyx and Carolla wither; the Stamina having fulfilled their office, perish, with the Stigma and Style; and the Germen alone increases, and then becomes conspicuous, when it is called the Pericarp.

TEN different sorts of Pericarps, or Seed-vessels, are enumerated by botanists.

I. Drupe (Drupa) is a pulpy seed-vessel—encompassing a stone, or nut.

II. Pome (Pomum) is a pulpy seed-vessel—not enclosing a stone, or nut—in the middle of which are radiated cells for the reception of seeds.

III Berry (Bacca) is a pulpy seed-vessel, without radiated cells in the centre—having the seeds irregularly dispersed throughout the pulp.

IV. Follicle (Folliculus) is a membranous seed-vessel—of one valve—opening longitudinally, i. e. on the side—and having no aparent suture for fastening or attaching the seeds within it.

V. Silique (Siliqua) is a membranous seed-vessel—of two valves, with a dissepiment intervening—seeds attached alternately to the upper and under sutures—seed-vessel longer than broad—flowers cruciform.

VI. Silicle (Silicula) has the same definition as the last—except that the seed-vessel is rather broader than long.

VII. Legume (Legumen) is a membranous seed-vessel—of two valves—no dissepiment—seeds attached to the superior suture only—flowers papilionaceous.

VIII. Capsule (Capsula) is a membranous seed-vessel—varying in the number of valves—without the characters of Pericarps IV. V. VI. VII. as defined above—splits in a determinate manner into valves.

IX. Nut (Nux) a hard stone, or shell, enclosing a kernel—but without a pulpy covering, in which case it would be a Drupe.

X. Strobile (Strobilus) is a seed-vessel composed of ligneous scales, which embrace the seeds within their bosom.

CONTINUATION OF LECTURE FIFTH.

THE DIFFERENT KINDS OF SEEDS.

THE Seeds present so great a diversity of appearance, that they cannot, like the Calyx, Corolla, or Pericarp, be grouped into distinct assemblages, but must be presented to the reader individually, of which the following are some of the most striking examples.

1. A Double-seed, each resembling a boat (Semen duplex, naviculæ formam repræsentans.)
2. Kidney-shaped, with heptagon and pentagon cells (Reniforme, cellulis pentagonis et heptagonis.)
3. Ovate (Ovatum,) shaped like an egg.
4. Globular (Globosum.)
5. Square (Tetragonum,) having four sides.
6 Triangular (Triangulare) having three sides.
7. Cylindric (Oblongum,) oblong.
8. Resembling a particular shell (Figuram bonæe mentiens)
9. Ditto.
10. Ditto.
11. Resembling the head of a monkey (Figurum cynocephcis repræsentans.)
12. A single crown (Corona simplex.)
13. A double crown (Corona duplex.)
14. A shuttle cock (Corona pennacea.)

BOTANICAL TERMS APPLICABLE TO THESE SEVERAL PARTS, GIVEN IN THE PRECEDING LECTURES.

I. CALYX.

1. Peculiar (Proprius) belonging to a single flower.
2. Common (Communis) common to several flowers.
3. Beneath (Inferus) placed beneath the Germen.
4. Above (Superus) above the Germen.
5. Monophyllous (Monophyllus) consisting of one leaf.
6. Diphyllous (Diphyllus) of two leaves.
7. Triphyllou (Triphyllus) of three leaves.
8. Tetraphyllous (Tetraphyllus) of four leaves,
9. Pentaphyllous (Pentaphyllus) of five leaves, and so on to
10. Polyphyllous (Polyphyllus) composed of many leaves.
11. Intire (Integer) having the border, or edge of the leaf even.
12. Toothed (Dentatus) cut into small teeth.
13. Partite (Partitus) divided into large segments.
14. Reflexed (Reflexus) bent back.
15. Imbricated (Imbricatus) having the leaves placed over one another, like the tiles of a house.

II. COROLLA.

1. Monopetalous (Monopetala) consisting of one petal only.
2. Polypetulous (Polypetala) composed of two or more petals.
3. Simple (Simplex) not a compound flower.
4. Compound (Composita) made up of distinct florets on a common receptacle.
5. Rayed (Radiata) having tubular florets in the *disk*, or centre, and ligulate in the *ray*, or circumference.
6. Tubular (Tubularis) having florets ending in a tube.
7. Ligulate (Ligulata) having the petals linear, like a strap.
8. Regular (Regularis) with all the parts proportionate.
9. Irregular (Irregularis) having all the parts disproportionate.
10. Tube (Tubus) the inferior narrow hollow part of a manopetalous corolla.
11. Claw (Unguis) the inferior narrow flat part of a polypetalous corolla.
12. Border (Lamina) the upper flat part of a polypetalous corolla.
13. Banner (Vexillum) the upper part of a papilionaceous flower.
14. Wings (Alæ) the side petals of ditto.
15. Keel (Carina) the under petal, shaped like a boat, of ditto.

III. PERICARP.

1. Valves (Valvulæ) the external pieces forming the sides of the seed vessel.
2. Sutures (Suturæ) the edges or margins, by which the valves are connected.
3. Column (Columella) a central point of union of the partitions in the seed vessels.
4. Partitions (Dissepimenta) the divisions of the seed-vessel into cells.
5. Cells (Loculamenta) hollow places for the reception of the seeds.
6. One-seeded (Monospermus).
7. Two-seeded (Dispermus) and so on.

IV. SEED.

1. Aril (Arillus) the outer coat of the seed.
2. Eye (Hilum) an oblong scar, marking the place where the seed was affixed by an umbilical cord to the seed vessel.
3. Heart (Corculum) the rudiment of the young plant within the seed.
4. Plume (Plumula) the ascending part of the corcule, or infant stem.
5. Radicle (Radicula) the descending part, or infant root.
6. Cotyledons (Cotyledones) the side-lobes, furnishing nourishment to the corculum.
7. Seminal leaves (Folia Seminalia) the first leaves of the pantule, serving the office of cotyledons or lobes.
8. Pappus (Pappus) a feathery crown.
9. Stipe (Stipes) a thread connecting the pappus to the seed

SIXTH LECTURE.

Classes and Orders of the Sexual System.

	CLASSES.	CLASSES.	Num. of the Order.
	Names	*Definations.*	
	1. *Number only.*		
1.	MON-ANDRIA.	One Stamen. - - -	2.
2.	DI-ANDRIA.	Two Stamina. - - -	3.
3.	TRI-ANDRIA.	Three Stamina. - - -	3.
4.	TETR-ANDRIA.	Four Stamina. - - -	3.
5.	PENT-ANDRIA.	Five Stamina. - - -	6.
6.	HEX-ANDRIA.	Six Stamina. - - -	5.
7.	HEPT-ANDRIA.	Seven Stamina. - - -	4.
8.	OCT-ANDRIA.	Eight Stamina. - - -	4.
9.	ENNE-ANDRIA.	Nine Stamina. - - -	3.
10	DEC-ANDRIA.	Ten Stamina. - - -	5.
11.	DODEC-ANDRIA.	Twelve to Nineteen Stamina. -	6.
	2. *Num and Insertion.*		
12.	ICOS-ANDRIA.	Twenty or more Stamina inserted on the Calyx, or Corolla.	5.
13.	POLY-ANDRIA.	Twenty, or more Stamina, on the Receptacle. - - -	7.
	3. *Num. & Height.*		
14.	DI-DYNAMIA.	Two long Stamina, two short.	2.
15.	TETRA-DYNAMIA.	Four long Stamina, two short	2.
	4. *Union of Filaments.*		
16.	MONA-DELPHIA.	Filaments united at the bottom into one Body. - - -	7.
17.	DIA-DELPHIA.	Filaments united at the bottom into two Bodies - -	5.
18.	POLYA-DELPHIA.	Filaments united at the bottom into three, or more Bodies.	4.
	5. *Union of Anthers.*		
19.	SYN-GENESIA.	Five united Anthers. - -	6.
	6. *Position.*		
20.	GYN-ANDRIA.	Stamens growing out of the Pistil, or an elongated receptacle.	9.
	7. *Seperations.*		
21.	MON-ŒCIA.	Stamens and Pistils in seperate corollas, upon the same Plant.	11.
22.	DI-ŒCIA.	Stamens and Pistils in seperate corollas, upon different Plants.	15.
	8. *Polygamy.*		
23.	POLY-GAMIA.	Bisexual and unisexual Flowers.	3.
	9. *Concealment.*		
24.	CRYPTO-GAMIA.	Stamens and Pistils invisible. -	5.

The Orders Explained.

CLASS I. MONANDRIA (One Stamen) contains two Orders.
1 Monogynia having one Pistillum.
2 Digynia two Pistilla.

CLASS II. DIANDRIA (Two Stamina) contains three Orders.
1 Monogynia having one pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.

CLASS III. TRIANDRIA (Three Stamina) contains three Orders.
1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.

CLASS IV. TETRANDRIA (Four equal Stamina) contains three Orders.
1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Tetragynia four Pistilla.

CLASS V PENTANDRIA (Five Stamina) contains six Orders.
1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Tetragynia four Pistilla.
5 Pentagynia five Pistilla.
6 Polygynia many Pistilla.

CLASS VI. HEXANDRIA (Six equal Stamina) contains five Orders.
1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Tetragynia four Pistilla.
5 Polygynia many Pistilla.

CLASS VII. HEPTANDRIA (Seven Stamina) contains four Orders.
1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Heptagynia seven Pistilla.

CLASS VIII. OCTANDRIA (Eight Stamina) contains four Orders.
1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Tetragynia four Pistilla.

CLASS IX. ENNEANDRIA (Nine Stamina) contains three Orders
Monogynia having one Pistillum

2 Trigynia three Pistilla.
3 Hexagynia six Pistilla.

CLASS X. DECANDRIA (Ten Stamina) contains five Orders.

1 Monogynia having one Pistillum
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Pentagynia five Pistilla.
5 Decagynia ten Pistilla.

CLASS XI. DODECANDRIA (Twelve to nineteen Stamina) contains six Orders.

1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Pentagynia five Pistilla.
5 Dodecagynia twelve Pistilla.
6 Polygynia many Pistilla.

CLASS XII ICOSANDRIA (Twenty or more Stamina on the Palyx or Corolla) contains five Orders.

1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Pentagynia five Pistilla.
5 Polygnia many Pistilla.

CLASS XIII. POLYANDRIA (Twenty or more Stamina on the Receptacle) contains seven Orders.

1 Monogynia having one Pistillum.
2 Digynia two Pistilla.
3 Trigynia three Pistilla.
4 Tetragynia four Pistilla.
5 Pentagynia five pistilla.
6 Hexagynia six pistilla.
7 Polygynia many Pistilla.

CLASS XIV. DIDYNAMIA (Two long Stamens, and two short) contains two Orders.

1 Gymnospermia, Seeds naked in the bottom of the Calyx.
2. Angiospermia, Seeds contained in a Pericarp.

CLASS XV. TETRADYNAMIA (Four long Stamens, two short) contains two Orders.

1 Siliculosa, Seeds in a small, short, or round pod.
2. Siliquosa, Seeds in a long slender pod.

CLASS XVI. MONADELPHIA (Filaments united at bottom into one Body) contains five Orders.

1 Pentandria having five Stamina.
2 Decandria ten Stamina.
3 Endecandria eleven Stamina.

4 Dodecandria twelve Stamina.
5 Polyandria many Stamina.

CLASS XVII. DIADELPHIA (Filaments united at bottom into two Bodies) contains four Orders.

1 Pentandria having five Stamina.
2 Hexandria six Stamina.
3 Octandria eight Stamina.
4 Decandria ten Stamina.

CLASS XVIII. POLYADELPHIA (Filaments united into three or more Bodies) contains four Orders.

1 Pentandria having five Stamina.
2 Dodecandria twelve Stamina.
3 Icosandria twenty Stamina.
4 Polyandria many Stamina.

CLASS XIX SYNGENESIA (Five united Anthers) contains six Orders.

1 Polygamia æqualis, when all the flosculi, or florets, are bisexual.

2 Polygamia superflua, when the florets in the centre are bisexual, and those in the circumference female.

3 Polygamia frustranea, when the florets in the centre are bisexual, and those in the circumference barren.

4 Polygamia necessaria, when the bisexual florets in the centre produce no seed, but the pistil florets in the circumference produce perfect seed.

5 Polygamia segregata, many partial or proper calyxes within the common calyx, separating the flosculi or florets.

6 Polygamia monogamia, containing simple flowers (i. e. not compound,) yet have their five Anthers united.

CLASS XX. GYNANDRIA (Stamens growing out of the Pistil, or on an elongated Receptacle) contains eight Orders.

1 Diandria having two Stamina.
2 Triandria three Stamina
3 Tetrandria four Stamina.
4 Pentandria five Stamina.
5 Hexandria six Stamina.
6 Decandria ten Stamina.
7 Dodecandria twelve Stamina.
8 Polyandria many Stamina.

CLASS XXI. MONŒCIA (Unisexual flowers, on the same plant) contains eleven Orders.

1 Monandria having one Stamen.
2 Diandria two Stamina.
3 Triandria three Stamina.
4 Tetrandria four Stamina.
5 Pentandria five Stamina.

6. Hexandria six Stamina.
7. Heptandria seven Stamina.
8. Polyandria more than seven Stamina.
9. Monadelphia Filaments united in one body.
10. Syngenesia Anthers united.
11. Gynandria Stamina growing out of the Pistil.

CLASS XXII. DIŒCIA (Unisexual flowers on different plants) contains fourteen Orders.

1. Monandria having one Stamen.
2. Diandria two Stamina.
3. Triandria three Stamina.
4. Tetrandria four Stamina.
5. Pentandria five Stamina.
6. Hexandria six Stamina.
7. Octandria eight Stamina.
8. Enneandria nine Stamina.
9. Decandria ten Stamina.
10. Dodecandria twelve Stamina,
11. Monadelphia Filaments united.
12. Polyadelphia many Stamina.
13. Syngenesia Anthers united.
14. Gynandria Stamina growing out of the Pistil.

CLASS XXIII. POLYGAMIA. (Bisexual and unisexual flowers.) contains three Orders

1. Monæcia Bisexual, and male or female flowers on the same plant
2. Diœcia Bisexual, and male or female flowers on separate plants.
3. Triœcia Bisexual, also male and female flowers, growing separately on three distinct plants of the same species.

CLASS XXIV. CRYPTOGAMIA (Stamina and Pistils concealed,) contains five Orders.

1, Filices comprehending the Ferns.
2. Musci the Mosses.
3. Algæ including the Fuci or sea-weeds.
4. Fungi containing the Mushroom.
5. Hepaticæ possessing the Liverworts.

CONTINUATION OF LECTURE SIXTH

On the Utility of System.

The *Utility* of *System* will be now obvious, for, extraordinary as i may appear, any person possessing a knowledge of the preceding thirteen pages, will be enabled to discover, without a guide, the Name of every Plant he may find in any portion of the globe.

For instance, we will suppose the enquirer meets with a plant in stagnant waters, in *Great Britain*, with *one stamen* and *one pistillum* he then refers to any book of Botany, in which Plants are arranged according to the Sexual System of Linnæus, and he will find that there are only thirteen plants, in the known world, of Class I. Monandria, Order I. Monogynia, and as the generic characters of these are taken from some differences in the parts of fructification, he will readily comprehend this expression "No Calyx, no Corolla," which refers to Hippuris (Mare's-tail) it being the only plant in the first Class and Order without these parts, and hence he will have discovered the plant in question to be the Hippuris.

We will next suppose him at *Surinam*, he there meets with a beautiful flower then unknown to him. He looks over the generic characters of the first Class and Order, and observes only three plants having a Corolla *three-parted*, hence it must be one of these three, viz. Renealmia, Amomum, and Curcuma. The Renealmia has a calix, a spatha of two leaves, with a remarkable nectary, which characters (the other two not possessing) would at once point out this plant to be the Renealmia.

Suppose him in *India*, and he meets with a plant, whose flower has a corolla six-parted, of the first Class and Order, there are only two plants in the known world with the corolla six-parted, viz. the Kempheria and Canna. He finds that the Canna has a *nectary* composed of two petals, like lips, the under of which is revolute, which the Kempheria has not, and he at once finds his plant to be the Canna.

In the same manner can he also discover the name of every unknown plant, by tracing it to its Class and Order, and afterwards examining its generic characters, which is always taken from the *fructification*, all plants of the same *genus* possessing similar *flowers*.

Miss Welsh
1821

J. H. Jones

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